APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,374	12/03/2003	Marian Rudolf	I-2-0444.1US	7140

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EXAMINER
DAO, MINH D

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
06/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/726,374	RUDOLF ET AL.
	Examiner	**Art Unit**	
	MINH D. DAO	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-36_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,4-8 and 10-36_ is/are rejected.

7)☒ Claim(s) _2,3,9_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1,4-8,10-36 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Das et al. (US 7,116,944) in view of Wei et al. (US 7,170,876).

Regarding claim 1, Das teaches a method for improving the reliability of a channel

quality indicator (CQI) message in a wireless communications network, comprising the

steps of:

a) receiving the CQI message (see figs. 2,5; col. 4, line 58 to col. 5, line 3);

b) decoding the CQI message (see figs. 2,5; col. 4, line 58 to col. 5, line 3);

c) computing a decision metric value for each symbol in the CQI message (see figs. 2

and 5);

d) determining a largest decision metric value;

e) determining a second largest decision metric value (see col. 7, lines 26-47). In this

case, since Das teaches comparing Maximum CQI with a threshold, and comparing CQI

change of current and previous CQI values to a threshold, therefore Das obviously

teaches determining a largest decision metric value and determining a second largest

decision metric value.); and

f) comparing the values obtained in steps (d) and (e). However, Das does not mention determining the reliability of the CQI message based on the result of the comparison of the largest decision metric value and the second largest decision metric value. Wei, in an analogous art, teaches a method of using a CQI decoder to configure to determine that the received bits do not clearly correspond to a valid codeword hypothesis which indicates a potential presence of errors (see col. 7, lines 45-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Wei to Das in order for the combined system to report the potential for errors or erasures resulting from the errors to a scheduler (see col. 7, lines 45-64).

Regarding claim 4, the combination of Das and Wei teaches the method of claim 1, further comprising the step of: discarding the CQI message when the comparison fails to meet a given criteria (see Wei, col. 7, lines 45-64).

Regarding claim 5, the combination of Das and Wei teaches the criteria in step (g) is if the difference between the largest decision value and the second largest decision value is less than a predetermined value (see fig. 5 of Das).

Regarding claims 6 and 7, it is well known in the art that the limitations recited in claims 6 and 7 are based on the design choice of the system to operate under a certain

threshold. Therefore, it is obvious that the combined system of Das and Wei can be configured to cover the thresholds indicated in the claims.

Regarding claim 8, the combination of Das and Wei teaches the criteria in step (g) is if the ratio of the second largest decision value to the largest decision value is greater than a predetermined value because the difference of the CQI values taught by Das is the ratio between them in "log" term.

Regarding claim 10, the combination of Das and Wei teaches a method for improving the reliability of a received message representing quality of a transmission channel in a wireless communication system, comprising the steps of: receiving a channel quality indicator (CQI) message from a wireless transmit and receive unit (WTRU) (see figs. 2,5; col. 4, line 58 to col. 5, line 3); b) decoding the CQI message (see figs. 2,5; col. 4, line 58 to col. 5, line 3); c) obtaining at least two different values representative of the decoded CQI message; and d) comparing the at least two values to determine the reliability of the CQI message (see figs. 2 and 5).

Regarding claim 11, the combination of Das and Wei teaches the method of claim 10, further comprising the step of: taking an action based upon the results of step (d) (see figs. 2 and 5).

Regarding claim 12, the combination of Das and Wei teaches that step (e) includes providing outer loop power control (see Wei, col. 13, lines 11-21 and TABLE 1).

Regarding claim 13, the rejection of claim 1 regarding steps d) and e) is herein incorporated.

Regarding claim 14, the combination of Das and Wei teaches step (d) includes calculating a difference between the decision metric having the largest magnitude and the decision metric having the second largest magnitude, in decibels (see TABLE 1 of Wei).

Regarding claim 15, the includes the limitations as that of claim 8, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 8.

Regarding claim 16, the includes the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 17 the system according to claim 16, further comprising action means for performing an action responsive to a given number of CQI errors received by said base station, the combination of Das and Wei teaches (see col. 7, lines 45-64).

Regarding claim 18, the includes the limitations as that of claim 12, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 12.

Regarding claim 19, the combination of Das and Wei teaches that the generating means includes calculating means for calculating a downlink signal-to-interference ratio (see fig.11 of Das).

Regarding claim 20, the includes the limitations as that of claim 5, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 5.

Regarding claim 21, the includes the limitations as that of claim 8, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 8.

Regarding claim 22, the includes the limitations as that of claim 5, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 5.

Regarding claim 23, the includes the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 24, the includes the limitations as that of claim 17, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 17.

Regarding claim 20, the includes the limitations as that of claim 5, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 5.

Regarding claim 25, the includes the limitations as that of claim 18, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 18.

Regarding claim 26, the includes the limitations as that of claim 20, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 20.

Regarding claim 27, the includes the limitations as that of claim 21, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 21.

Regarding claim 28, the includes the limitations as that of claim 22, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 22.

Regarding claim 29, the includes the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 30, the includes the limitations as that of claim 26, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 26.

Regarding claim 31, the includes the limitations as that of claim 27, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 27.

Regarding claim 32, the includes the limitations as that of claim 28, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 28.

Regarding claim 33, the includes the limitations as that of claim 29, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 29. In addition, Reed-Muller decoder are well known in the art (see US 2003/0095532).

Regarding claim 34, the includes the limitations as that of claim 30, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 30.

Regarding claim 35, the includes the limitations as that of claim 31, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 31.

Regarding claim 36, the includes the limitations as that of claim 32, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 32.

Allowable Subject Matter

3.   Claims 2,3, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D. DAO whose telephone number is 571-272-7851. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW ANDERSON can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Minh Dao
AU 2618
June 4, 2007

Matthew Anderson
Superviser AU 2618